**K-5 Math Lesson Plan**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Teacher: Hafez, Richmond, Shaw, Thomas** | | | **Grade: 5** | | | **Date(s)**: September 2012 |
| **Unit Title: Operations with whole numbers and decimals** | | | | **Corresponding Unit Task:**  **Unit 2 Task 3 – Taught Prior to Task 3** | | |
| **Essential Question(s): How can I use division procedures to help me solve problems with large amounts?**  **Why is it important to determine the unit rate when purchasing items?** | | | | | | |
| **Materials/Resources** | | | | **Essential Vocabulary** | | |
| **Teacher:**  **Index cards for Activating Strategy**  **Dividing Decimals matching game** | | **Student:**  **Math journal**  **Pencils** | | | **Division**  **Divided**  **Quotient**  **Dividends** | |
| **Learning Experience** | | | | | | |
| **8 Mathematical Practices:**  √ 1. Make sense of problems and persevere in solving them.  2. Reason abstractly and quantitatively.  √ 3. Construct viable arguments and critique the reasoning of others.  √ 4. Model with mathematics.  √ 5. Use appropriate tools strategically.  √ 6. Attend to precision.  √ 7. Look for and make use of structure.  8. Look for and express regularity in repeated reasoning. | **Common Core State Standards:** 5.NBT.6 – Find whole number quotients of whole numbers with up to four digit dividends and two digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. | | | | | |
| **I Can Statement(s):**  **I can determine whole number quotients with up to four digit dividends and two digit divisors.**  **I can use division strategies to solve problems involving unit rates and money.** | | | | | |
| **Activating Strategy/Hook:** Fact Family Match-Up – Students will each be given a card with either a multiplication or division problem on it. Students will solve their problem and then compare their cards with others in the room to find their fact family.  Example:  16 x 47 = 752  47 x 16 = 752  752 ÷ 47 = 16  752 ÷ 16 = 47  Students will discuss the strategies they used to find the answers of their problems. | | | | | |
| **Teacher Directed:** Teacher will explain to students that dividing whole numbers with decimals is very similar to dividing a whole number by a whole number. Teacher will review a few division problems with four digit dividends and two digit divisors. Teacher will then use the same problems to show that when a decimal is placed creating a whole number and a decimal to the hundredths place, the process is still the same, and the only change in the quotient is the position of the decimal. Explain to students that division of a decimal is most often used when money is involved. Teacher will show the students several examples. | | | | | |
| **Guided Practice:** Using the notes sheet (see attached) students will begin working problems with the teacher. They will first work the problem with no decimals and then make predictions about where decimal will be in the quotient when a decimal is added to the dividend.Students will then work with the teacher to complete the notes sheet. | | | | | |
| **Independent Practice:** Students will play the dividing decimals matching game. Prior to the lesson, the teacher should separate the equations from the answers. Students should turn both sets upside down. They will turn an equation up and solve the equation. Once they have solved the equation they will then try and find the answer. If they do not match, they turn both cards over and try again. | | | | | |
| **Closing/Summarizing Strategy:** Students will choose a division problem from the matching game and with a partner; they will explain the strategy they used to solve the problem. | | | | | |
| **Differentiation Strategies** | | | | | | |
| **Extension** | | | **Intervention** | | | **Language Development** |
| Students will spin a spinner or roll dice to create a number. They will record up to six numbers. Using the numbers they will create division problems with no remainders. Students will record their findings in their journals. If they are sure the problem cannot be solved with no remainders, they must explain why. | | | Make five to ten division problems with decimals. Students will answer the problems and then find them in a “number find” (similar to a word find). They will switch the cards with a partner. | | | Students will use the vocabulary to create their own vocabulary matching game. |
| **Assessment(s):** Students will create their own word problem in their math journals. They will trade with a partner and have their partner solve the problem. Students will then work together to create fact families for their word problems. | | | | | | |
| **Teacher Reflection:**   * Student understandings/misconceptions * Specific notes about students’ thinking * What do I need to reteach/review tomorrow or in the future * New ideas or changes for next time | | | | | | |

NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

DIVIDING DECIMALS

How do I divide decimals using words, pictures, or models?

Example:

|  |  |  |
| --- | --- | --- |
| **WHOLE NUMBER DIVISION** | **MY PREDICTION** | **DIVISION WITH DECIMALS/MONEY** |
| **1,938 ÷ 23 =** |  | **$19.38 ÷ 23 =** |
| **3,060 ÷ 45 =** |  | **$30.60 ÷ 45 =** |
| **1,752 ÷ 24 =** |  | **$17.52 ÷ 24 =** |

1. Jack had $27.60. He wanted to buy 12 boxes of rice. If each box costs $2.15, will Jack have enough money to buy all 12 boxes?
2. Masey wants to buy cases of water to donate to Second Harvest food bank. She had $48.00 to spend and bought 15 cases of water. How much did each case cost?
3. Gary had to buy hamburger to cook cheeseburgers for the local food shelter. He needed to buy 27 pounds of hamburger meat. He only had $86.40 to spend. How much can he spend on each pound of meat?

**DECIMAL MATCHING GAME**

|  |  |  |  |
| --- | --- | --- | --- |
| **$14.28 ÷ 70 =** | **$2.40** | **$25.50 ÷ 50** | **$0.51** |
| **$73.83 ÷ 23 =** | **$3.21** | **$35.70 ÷ 17 =** | **$2.10** |
| **$32.16 ÷ 16 =** | **$2.01** | **$28.80 ÷ 24 =** | **$1.20** |
| **$27.00 ÷ 90 =** | **$0.30** | **$80.50 ÷ 23** | **$3.50** |